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| Math (Science)   | Group-I          | Paper-I       |
| Time: 20 Minutes | (Objective Type) | Max Marks: 15 |

**Note:** Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1- The value of  $\log \left( \frac{p}{q} \right)$  is:

- (a)  $\log p - \log q$  ✓ (b)  $\frac{\log p}{\log q}$   
 (c)  $\log p + \log q$  (d)  $\log q - \log p$

2- Mid-point of the points (2, -2) and (-2, 2) is:

- (a) (2, 2) (b) (-2, -2)  
 (c) (0, 0) ✓ (d) (1, 1)

3- L.C.M. of  $a^2 + b^2$  and  $a^4 - b^4$  is:

- (a)  $a^2 + b^2$  (b)  $a^2 - b^2$   
 (c)  $a^4 - b^4$  ✓ (d)  $a - b$

4- The diagonals of a parallelogram \_\_\_\_\_ each other.

- (a) Bisect ✓ (b) Trisect  
 (c) Bisect at right angle  
 (d) None of these

5- The order of matrix  $\begin{bmatrix} 2 & 1 \end{bmatrix}$  is \_\_\_\_\_.

- (a) 2 - by - 1 (b) 1 - by - 2 ✓  
 (c) 1 - by - 1 (d) 2 - by - 2

6-  $(3 + \sqrt{2})(3 - \sqrt{2})$  is equal to:

- (a) 7 ✓ (b) -7  
 (c) -1 (d) 1

- 7- If  $(x, 0) = (0, y)$ , then  $(x, y)$  is:  
(a)  $(0, 1)$  (b)  $(1, 0)$   
(c)  $(0, 0)$  ✓ (d)  $(1, 1)$
- 8- Imaginary part of  $-i(3i + 2)$  is \_\_\_\_\_.  
(a)  $-2$  ✓ (b)  $2$   
(c)  $3$  (d)  $-3$
- 9- \_\_\_\_\_ congruent triangles can be made by joining the mid-points of the sides of a triangle.  
(a) Three (b) Four ✓  
(c) Five (d) Two
- 10- Factors of  $3x^2 - x - 2$  are \_\_\_\_\_.  
(a)  $(x + 1)(3x - 2)$  (b)  $(x + 1)(3x + 2)$   
(c)  $(x - 1)(3x - 2)$  (d)  $(x - 1)(3x + 2)$  ✓
- 11- In  $\sqrt[3]{35}$ , the radicand is:  
(a)  $3$  (b)  $\frac{1}{3}$   
(c)  $35$  ✓ (d)  $\sqrt{35}$
- 12- If  $a^x = n$ , then :  
(a)  $a = \log_x n$  (b)  $x = \log_n a$   
(c)  $x = \log_a n$  ✓ (d)  $a = \log_n x$
- 13- The square root of  $a^2 - 2a + 1$  is:  
(a)  $\pm(a + 1)$  (b)  $\pm(a - 1)$  ✓  
(c)  $(a - 1)$  (d)  $(a + 1)$
- 14- Adj of  $\begin{bmatrix} 1 & 2 \\ 0 & -1 \end{bmatrix}$  is:  
(a)  $\begin{bmatrix} 1 & -2 \\ 0 & -1 \end{bmatrix}$  (b)  $\begin{bmatrix} -1 & 2 \\ 0 & -1 \end{bmatrix}$   
(c)  $\begin{bmatrix} -1 & 0 \\ 2 & 1 \end{bmatrix}$  (d)  $\begin{bmatrix} -1 & -2 \\ 0 & 1 \end{bmatrix}$  ✓
- 15-  $x = 0$  is a solution of the inequality \_\_\_\_\_.  
(a)  $x > 0$  (b)  $3x + 5 < 0$   
(c)  $x + 2 < 0$  (d)  $x - 2 < 0$  ✓